

PATENT APPLICATION

Xerox Docket No. D/A3533

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Judith M. VANDEWINCKEL et al.

Application No.: 10/743,097

Examiner: C. RODEE

Filed: December 23, 2003

Docket No.: 117545

For: EMULSION AGGREGATION TONER HAVING RHEOLOGICAL AND FLOW
PROPERTIES

REPLY BRIEF

Appeal from Group 1756

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REMARKS

The following remarks are directed to the new points of argument raised in the Examiner's Answer dated November 30, 2006.

I. **Response to Examiner's Answer**

The Examiner maintains that claims 1-19 are indefinite under 35 U.S.C. §112, second paragraph as allegedly being indefinite.

A. **Dismissal of Mathematical Correlation**

On page 8 of the Examiner's Answer, the Examiner alleges that there is no evidence that an equation including 50A (i.e., $50A + 30B + 10C = \text{cohesion}$) must be used in calculating cohesion. This is incorrect.

The specification provides information confirming that a calculation involving 50A must be used to obtain the cohesion value. That is, the fact that the specification describes the use of 2 gram samples and that when all of the sample remains on the top screen, the cohesion is 100%, confirms use of a formula involving "50A."

The Examiner incorrectly alleges that this argument is mathematically insignificant because it allegedly is obvious that if all of the toner is retained on the first screen, then the cohesion value is 100%. Applicants submit that even if each result is obvious, the cohesion calculation must still reach this 100% value for this set of results. That is, a cohesion calculation not resulting in 100% as the "obvious" result in this circumstance would be nonsensical.

Thus, it is clear, including from the specification and Declaration, that a formula must be used that gives a 100% value when all of the toner remains on the top screen at the end of the vibration step. The only way to get a 100% value using a 2 gram sample in this circumstance is by use of an equation including 50A.

The Examiner further alleges that even if 50A were used as the first value, nothing confirms that the second and third values in the equation would be 30B and 10C. However, 50A +30B + 10C is the only equation in the art that uses the 50A value. This is consistent among all of the references determining cohesion using screens. The Examiner's allegation that something other than 30B and 10C would be used in the equation is without merit in the art. The Examiner also ignores the factual analysis set forth in the 132 Declaration in making these allegations.

Thus, one of ordinary skill in the art would understand "50 x A" was used to get the 100% cohesion value when all 2 grams of sample toner remains on the top screen, and thus that the conventional 50A + 30B + 10C cohesion equation was clearly used.

B. Example with Combes

On page 7 of the Examiner's Answer, the Examiner attempts to provide an example using the formula in Combes with a 2 gram toner sample of 55 μm size that is applied to the screen sizes of Combes compared to the screen sizes of the present specification. This example is misguided and exhibits a clear misunderstanding of cohesion.

The Examiner's example improperly selects a large toner size that would be physically unable to pass through all of the screens of the present specification or Combes, and thus one would not select such screen sizes for such a sized toner. That is, one would select appropriate screen sizes where the toner particles could theoretically pass through all the screens.¹ If one did not do so, the cohesion could not be accurately determined since the toner could not pass through some of the screens, and thus would result in an incorrectly high

¹ The 132 Declaration (paragraph 6) refers to the Hosokawa Powder Manual, which itself also explains that differently sized screens must be used with different particles. The Examiner's example would require a much larger sized set of screens than described in either the present specification or Combes in order to properly measure cohesion.

cohesion value. The Examiner's hypothetical cohesion calculation would thus be understood to be clearly a wrong calculation based on use of wrongly sized screens.

Cohesion measures the "stickiness" of toner, not the size of the toner particles. It is thus well understood to be necessary and appropriate to select screen sizes in which all the toner theoretically can pass through. As indicated in the Declaration, it is known in the art that one can and does select different screen sizes depending on the size of the toner, yet the same 50A + 30B + 10C formula is still used in determining cohesion with different screen sizes. The Examiner's example assumes that only the size of the toner particles affects the cohesion value. Since cohesion equates to stickiness, one could potentially obtain the same cohesion value with different screen sizes. As the present specification adequately describes the screen sizes that may be used, there is no issue of definiteness with regard to the screen sizes.

C. Language in Specification

On page 5 of the Examiner's Answer, the Examiner alleges that the specification does not particularly point out the vibration time, toner amount, vibration amplitude and screen sizes because such characteristics are identified by qualifiers including "such as" and "for example."

The present specification points out and gives definite guidance to the parameters to obtain the cohesion value. Specific values are disclosed and may desirably be used. The use of "such as" and "e.g." does not discount this specific guidance. Further, nowhere does the present specification indicate that one cannot use, for example, different screen sizes to measure and obtain the same cohesion value. In fact, the qualifiers in the specification were intended to indicate that although the cohesion may be determined with the specifically described parameters, other parameters are not precluded. This fact cannot undermine the specific guidance given in the specification for one of ordinary skill in the art to follow.

The present specification provides one of ordinary skill in the art with reasonable guidance for measuring the cohesion value as recited in the claims, and thus the claims are clearly definite to one of ordinary skill in the art with regard to cohesion.

D. Related Art

On page 6 of the Examiner's Answer, the Examiner asserts that U.S. Patent No. 6,673,501 (Combes) provides that clearly different sized screens are known to be used in the art and the artisan would expect far different amounts of the toner to be retained on Combes screens as compared to the screens of the present specification, and thus would appear to give a different result.

Appellants rely on the references in the Declaration, including Combes, to outline the method and calculation of the cohesion value, and that in particular it is well known to use the $50A + 30B + 10C$ cohesion equation with a three screen Hosokawa Powder Tester method, including with differently sized screens and including with the screen sizes according to the present application.

The Examiner alleges that Appellants agree that clearly different sized screens are known to be used in the art in the footnote at the bottom of page 9 of the Appeal Brief. Here, Appellants indicate that there is certainly a correlation between screen sizes in conducting the test. However, once appropriate sizes are selected, which sizes are described in the present specification, then one understands to apply the known cohesion equation to the results obtained using such set of screens. Appellants acknowledge a correlation between screen sizes in conducting the test. However, Appellants submit that the present specification provides the necessary parameters, including screen sizes of 53 microns, 45 microns and 38 microns for the method and calculation of the cohesion value, and thus one skilled in the art would know to apply the well known cohesion equation to the results obtained using the set of screens provided in the present specification.

On page 8 of the Examiner's Answer, the Examiner asserts that Hagiwara shows that cohesion is known to be treated differently by different inventions for different toners.

However, Hagiwara describes calculating a cohesion degree by summing up (a), (b) and (c) (see column 3, lines 22-37 of Hagiwara). Although Hagiwara describes calculating a cohesion degree, it is clear from Hagiwara that this is not a cohesion value as related to flow properties as known to one of ordinary skill in the art as in the present application. Hagiwara merely calculates an overall percentage of the retains remaining on the three screens, and does not evaluate the true cohesion of the particles as indicative of the flowability value of the material. See page 11 of Appellants' Brief.

II. Conclusion

For all of the foregoing reasons, the arguments presented in the Appeal Brief, the present specification, Declaration and art clearly inform one how to determine cohesion as claimed, and thus recitation of cohesion in the claims is clear and definite.

Applicants respectfully submit that the rejections are in error and that claims 1-19 are in condition for allowance. For all of the above reasons, Appellants respectfully request this Honorable Board to reverse the rejections of claims 1-19.

Respectfully submitted,

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